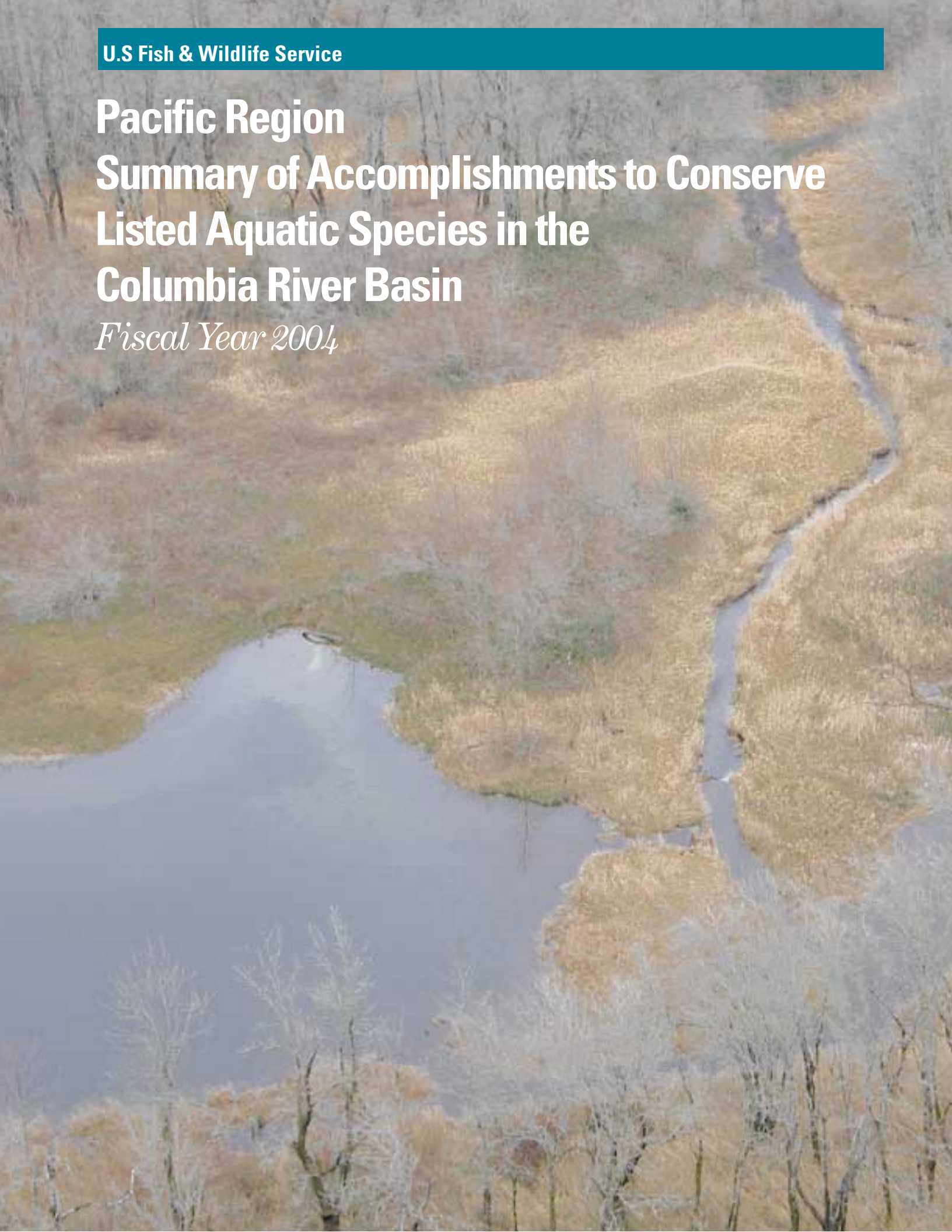
U.S Fish & Wildlife Service

# Pacific Region Summary of Accomplishments to Conserve Listed Aquatic Species in the Columbia River Basin

*Fiscal Year 2004*

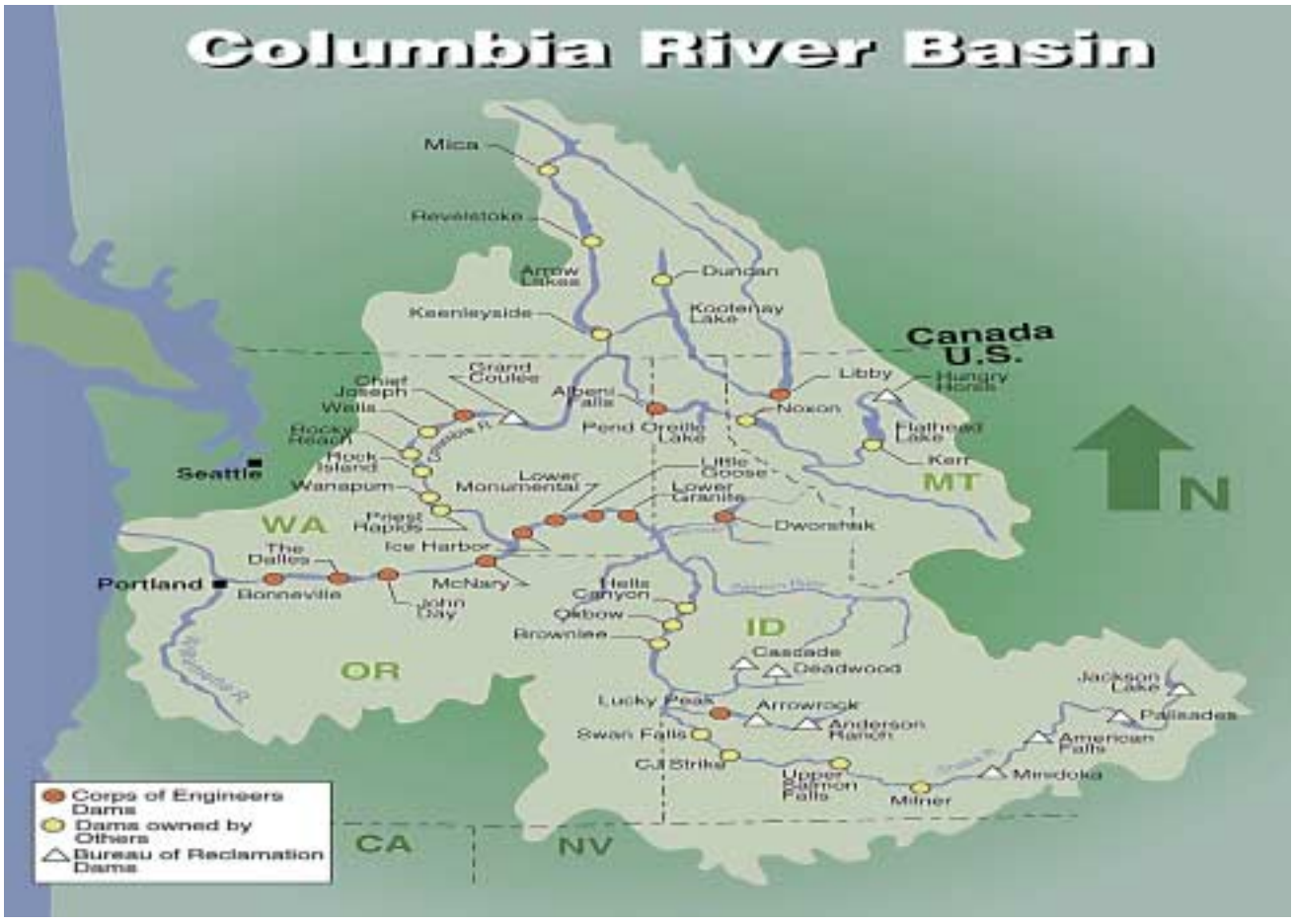


# Summary

The following is a summary of the Pacific Region's accomplishments on conservation of the Endangered Species Act (ESA) listed aquatic species in the Columbia River Basin (Fiscal Year 2004).

The Columbia River Basin is the second largest river basin in the United States and covers an area of 259,000 square miles. Its geographic boundaries include major portions of the states of Washington, Oregon, and Idaho; parts of Montana, Wyoming, Nevada, and Utah; and the Canadian provinces of British Columbia and Alberta. The Columbia River Basin contains 40 major dams operated by the U.S. Army Corp of Engineers (COE), Bureau of Reclamation (BOR), and other Federal and non-Federal entities. It is estimated that the Basin was once home to the largest run of salmon and steelhead in the world. However, for more than 100 years, there has been a steady decline of salmon and steelhead populations in the Columbia River Basin. Prior to development, the Columbia River Basin produced an estimated 10-16 million adult salmon and steelhead that returned to the basin annually to spawn. Currently, only about 2-3 million adult salmon and steelhead return annually.

The loss of 8-13 million fish is due primarily to hydropower and to various factors including over harvest, loss of habitat, urban development, and outmoded hatchery practices. Twelve populations of Columbia River Basin salmon and steelhead, bull trout, Kootenai River white sturgeon, and five species of Snake River snails are on the threatened and endangered species list.



To address this issue, a consortium of Federal agencies (known as the Federal Caucus) developed the *Final Basin-wide Salmon Recovery Strategy (Strategy)* for salmon and steelhead in the Columbia River Basin. This *Strategy* outlines expected improvements in Habitat, Hatcheries, Hydropower, and Harvest (otherwise referred to as the All Hs) needed to meet the goals of the ESA and serves as a conceptual recovery plan for listed stocks of Pacific salmon and steelhead in the Columbia River Basin. The Strategy defines the roles and responsibilities for each Federal and non-Federal entity to ensure specific actions are addressed with adequate coordination.

Furthermore, the Strategy provided a framework to implement the Federal Columbia River Power System (FCRPS) Biological Opinions (BiOps), other biological opinions applying to Federal activities in the Basin, and other actions to recover fish by States, Tribes, and other entities (e.g. Northwest Power and Conservation Council's Artificial Production Review (APRE).

As required by various statutory, treaty and legal requirements (e.g. ESA, Anadromous Fish Conservation Act, Migratory Bird Act, Fish and Wildlife Coordination Act, and Pacific Salmon Treaty Act), the Service has a unique Federal role and is involved in nearly all programs to restore or recover listed or endangered aquatic species in the Columbia River Basin. The Service actively promotes the protection, conservation, and restoration of important fish and wildlife and their habitats throughout the Columbia River Basin.

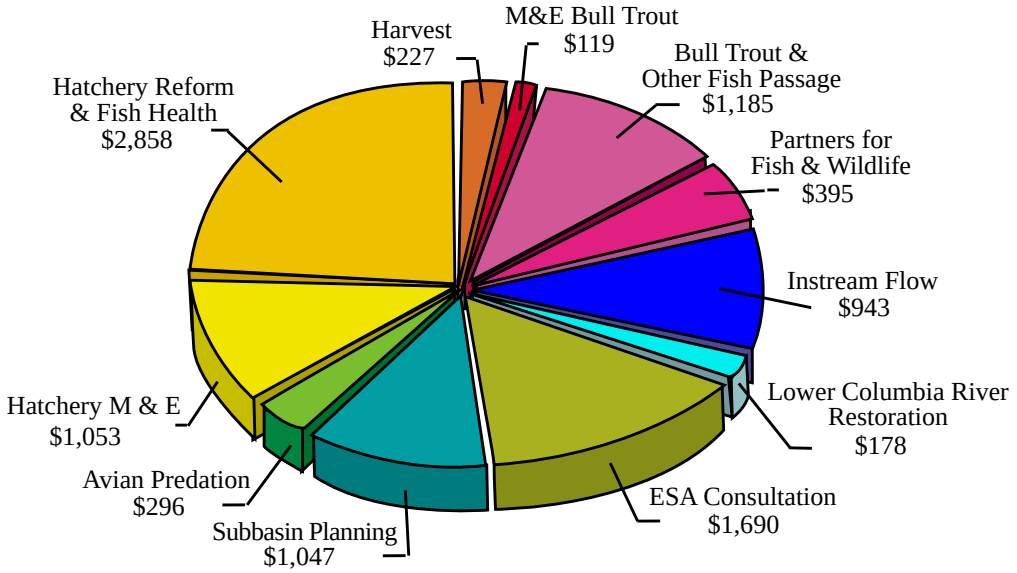
In FY 2004, the Service dedicated $9.9 million in base operational funds that directly implemented the objectives in the comprehensive *Strategy* and the respective BiOps. These resources helped ensure the Service made progress in meeting its ESA and other legal requirements. The following is a brief summary of the activities the Service conducted with the FY 2003 base funding in the Columbia River Basin.

With the $9.9 million investment, the Service focused its efforts in eleven areas:

- Bull trout passage
- Avian Predation
- Subbasin Planning
- Instream Flow
- ESA Consultation
- Partners for Fish and Wildlife
- Lower Columbia River Restoration
- Hatchery Reforms
- Hatchery Monitoring and Evaluation
- Bull Trout Monitoring and Evaluation
- Limit Harvest Impacts

Seven of these focus areas address conservation of habitat through coordination and consultation with other Federal agencies, states, tribes and private landowners and the remaining focus areas address hatchery operations, hydropower and harvest issues. Below are several highlights of FY 2004:

# FY 2004 Columbia River Basin Funding = $9.9 M



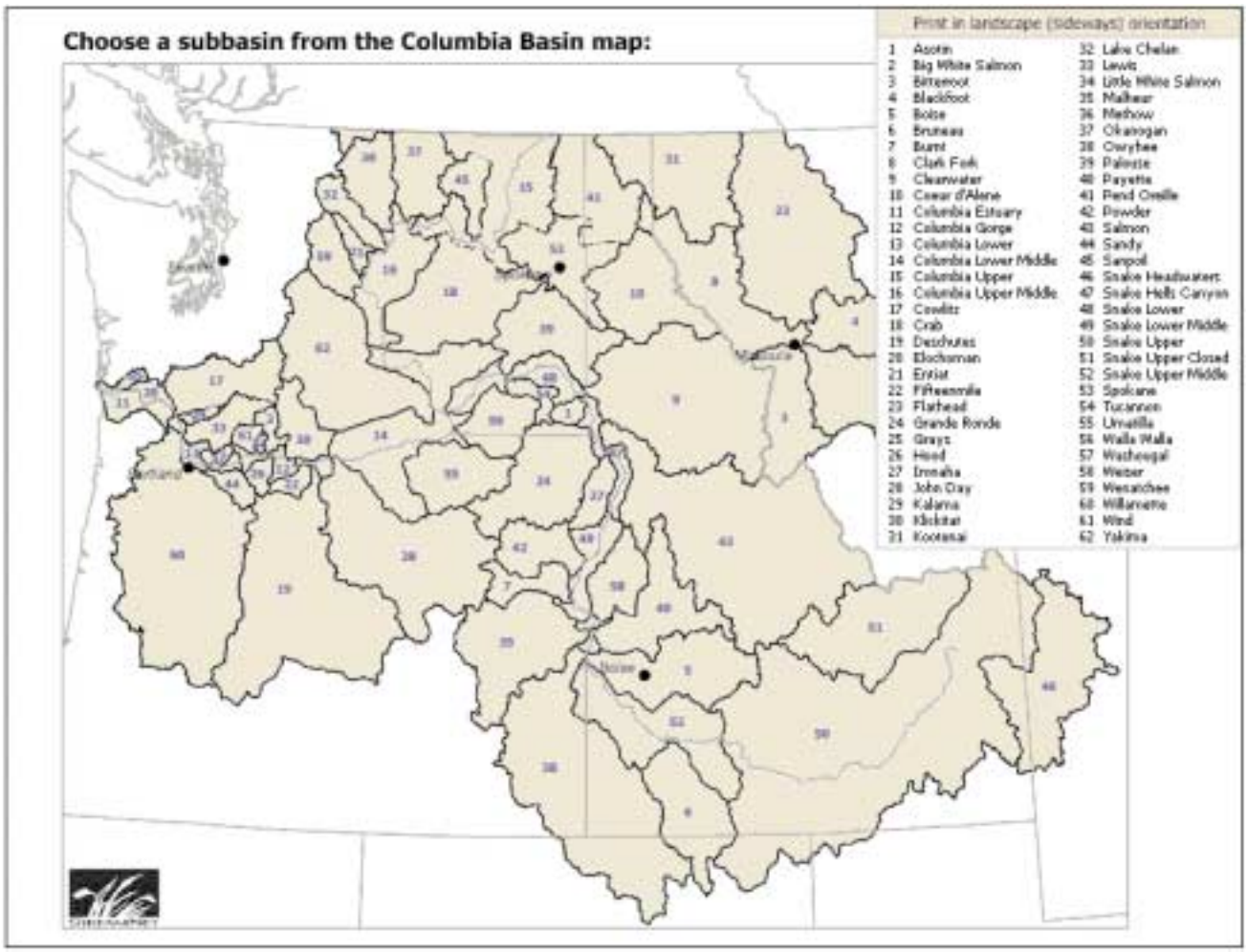
## Habitat ($5,734K)

**Subbasin Planning ($1,047K) –** In 2004 the Northwest Power and Conservation Council's subbasin planning process was completed for virtually all 62 watersheds in the Columbia Basin. U.S. Fish and Wildlife Service technical staff provided additional scientific value to the planning process by providing sitespecific information, technical knowledge, on-the-ground expertise, and by assisting in stakeholder participation and outreach. At the State-wide and regional levels, we worked closely with the States, Tribes, and other Federal agencies to ensure policy issues were addressed.

This planning effort was successful in integrating various fish and wildlife restoration efforts in the Columbia Basin and provides a framework for future funding for the Council's Fish and Wildlife Program. These plans outline the fish and wildlife resource priorities for the next 10 to 15 years. They have the support of the local and regional entities that developed them.

The Council has recently initiated a public discussion of how to compile subbasin plans into a comprehensive planning tool for basin-wide funding and management decisions. They are also incorporating other Columbia Basin planning efforts, most notably the Artificial Production Review and Evaluation, to ensure consistency with subbasin plans.

The Service is now shifting its focus towards implementing high priority actions identified in subbasin plans. Specifically, we are looking at habitat restoration activities where we can work cooperatively with our partners to identify, restore, and protect habitats that provide significant benefits to important fish and wildlife resources.



**Bull Trout Passage ($1,185K)** —The Service completed settlement negotiations on the Pelton Round Butte hydroelectric project and signed a final settlement agreement in 2004. The $135 million settlement agreement included many measures that will benefit bull trout and provide for fish passage. A $60 million downstream fish passage facility will be constructed and operational at the Pelton project by spring 2008. Upstream passage and release facilities will be constructed as well. The Service is working with other federal and state agencies, Tribes, and NGO's to construct upstream fish passage facilities at the existing Opal Springs hydro project.

Idaho, Montana and Washington are undertaking a range-wide review of bull trout and plan to submit their information as part of the Service's 5-year review. The 5-year review will assess the best available information on how bull trout have fared since they were listed for protection across their range in the lower 48 states in 1999. This will include analyses of population data and threats to the species and is necessary to ensure that the classification of a species as threatened or endangered is accurate. The Service's review will consider the best scientific and commercial data that

Bull Trout

have become available since the current listing determination, such as species biology; habitat conditions; threat status and trends; and other new information, data, or corrections including, but not limited to, taxonomic or nomenclatural changes, identification of erroneous information contained in the List, and improved analytical methods. Information submitted should be supported by documentation such as maps, bibliographic references, methods used to gather and analyze the data, and/or copies of any pertinent publications, reports or letters by knowledgeable sources.

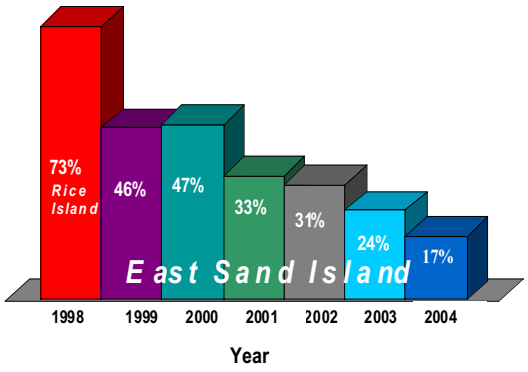
Idaho Fish Program Office is undertaking a 3-year bull trout radio telemetry project. Much data on bull trout has been collected since previous reviews were done (Goetz 1989, Pratt 1993, Rieman and McIntyre 1993). In particular, many studies involving radio telemetry that help characterize life history, movements and habitat preferences have been conducted. Analysis and review beyond individual studies or watersheds has not been done. This project would provide costshare to update what is known about bull trout making it readily available for managers and recovery planning.

Before

*Culvert replacement in Brownsmead, Oregon, to restore wetland function and fish passage in the lower Columbia River estuary*

After

**Avian Predation ($296K) –** In July 2004, the Service, in cooperation with NOAA Fisheries and the U. S. Army Corps of Engineers, published a Draft Environmental Impact Statement on *Caspian Tern Management to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary* (DEIS) for a 60 day public review period. The EIS is required by the settlement agreement reached in 2002 (*National Audubon Society et al. v. Colonel Randall J. Butler et al.*) which also identified the Service as the lead agency on the project.




**Instream Flow ($943K) –** The Service coordinates with the Action Agencies (Bonneville Power Administration, U.S. Army Corp of Engineers, and Bureau of Reclamation) on flow objective which serves as a guide to manage available water resources during the juvenile and adult migration seasons. The Strategy identifies improvement to instream flows as one of the immediate actions to be taken to achieve the ultimate goal of improved habitat for fish productivity. The main focus for the Service is to establish instream flows that benefit lamprey, bull trout, Kootenai River white sturgeon, salmon, and other fish and wildlife. Listed below are just a few accomplishments during FY 2004

Box Canyon Hydroelectric Project (Project), operated by the Public Utility District No. 1 of Pend Oreille County (PUD), includes a hydroelectric facility in the Pend Oreille River and an ancillary development in Calispell Creek, in northeastern Washington State. The Service has been working with federal, state, and Tribal resource managers and the PUD since 1997 to address project impacts on native salmonids such as bull trout, westslope cutthroat trout, and mountain whitefish, as well as other trust resources such as bald eagles, grizzly bears, migratory birds, and other wildlife. The Pend Oreille River and several tributary streams in the project area have been designated as bull trout critical habitat. In May 2004, the Department of the Interior (Department) filed the Service's section 18 Federal Power Act (FPA) fishway prescriptions for fishways at Calispell Creek Pumping Plant and at Box Canyon Dam. Additional wildlife mitigation measures developed by the Service through the section 10(j) FPA, have been accepted by FERC. Unless appealed by the PUD, FERC is expected to issue the license in 2005.

**ESA Consultations ($1,690K) –** Service biologists have provided significant assistance and expertise with several large consultations in 2004. For example Service staff completed 31 formal and 501 informal consultations on Federal activities potentially affecting bull trout in the Columbia Basin. These consultations help plan, modify, and implement Federal lands projects that contribute to the conservation and recovery of ESA-listed fish species.

Projects addressed in FY 2004 include livestock grazing, forest health, road construction and de-construction, culvert replacements, road maintenance, water withdrawals, habitat restoration, and mining activities. Included in these efforts was early coordination with the Forest Service on Land

and Resource Management Plan revisions for four National Forests covering approximately 7.3 million acres of bull trout habitat in the Upper Columbia River Basin.

In FY 2004 the Service consulted with the U.S. Forest Service (USFS) on numerous bull trout restoration and recovery actions within the Deschutes subbasin, including: (1) enhancement of bull trout habitat through hazard tree placement in the Metolius River; (2) the Bull Trout Streamside Protection project within the Metolius River watershed; (3) bull trout habitat restoration in the Brush Creek Channel Restoration Project; (4), the Trapper Creek Wood Placement project, and (5) the Odell Creek Wood Placement project.

The Service and NOAA Fisheries, together with the Deschutes and Ochoco National Forests, and Prineville Bureau of Land Management, are implementing the Joint Aquatic and Terrestrial Programmatic Assessment for Federal lands within the Deschutes subbasin. This programmatic approach has developed strong project design criteria to eliminate adverse effects to listed species including bull trout and steelhead. Service staff is also working with the Bureau of Land Management (BLM) on watershed restoration and water quality management projects in the Upper Deschutes Resource Management Plan.

The Kootenai Valley Resource Initiative (KVRI) is a group in Boundary County, Idaho, formed by local city and county governments and the Kootenai Tribe of Idaho, to proactively address natural resource issues in the County. Included in this effort was the

Service staff surveying watershed for listed fish species.

development of an outreach strategy to better understand the natural resource issues in the area, and to gain support from the local citizens for implementing proactive management efforts for Kootenai River burbot and sturgeon, and for bull trout, at the local level. The KVRI recently completed an international conservation strategy for the burbot in the Kootenai River, and has joined with the Service and the State of Idaho in requesting the Corps to provide low winter flows from Libby Dam to promote burbot migration and reproduction. This plan is already being implemented, and the MOU will be circulated for signature by the involved groups in January 2005.

**Partners for Fish and Wildlife ($395K)** – The U.S. Fish and Wildlife Service's, Partners for Fish and Wildlife Program, is a voluntary partnership program that helps private landowners restore wetlands and other important fish and wildlife habitats on their own lands. For over 15 years, the Partners for Fish and Wildlife Program has been providing financial and technical assistance to private landowners through voluntary cooperative agreements. State resource agencies work closely with the Service to help establish priorities and identify focus areas. The restoration of degraded wetlands, native grasslands, streams, riparian areas, and other habitats to conditions as close to natural is emphasized. The program's philosophy is to work proactively with private landowners for the mutual benefit of declining Federal trust species and the interests of the landowners involved. Usually, a dollar-for-dollar cost share is achieved by working with landowners and a host of nationally based and local entities (e.g., Federal, State, and local agencies, soil and water conservation districts, and private conservation organizations). Landowners sign an agreement to retain the restoration\ projects for the life of the agreement (at least 10 years) and otherwise retain full control of their land. The following are just a few examples of how Partners have engaged in the Pacific Region.

In 2004, through the Partners for Fish and Wildlife program, two fish passage barriers were removed from Cedar Creek, near Ione, Washington. This project also included major stream restoration work. The removal and restoration project opened up a half-mile of bull trout habitat. The Service is working with other partners to remove a 19-foot concrete dam and accumulated sediments in the same area to restore up to 11 miles of bull trout habitat in 2005.

In FY 2004 Partner's Program participated in another fish passage improvement project on the John Day River. The Tucker Fish Passage Project involved the Grant County SWCD, in cooperation with the private land owner, the Service, and other agencies, to restore fish passage for listed steelhead trout, bull trout and other resident fish species along the mainstem John Day River. Restoration activities included the replacement of a diversion structure impediing fish

passage yearround, with a new fish ladder. This opened up 17 miles of habitat on the mainstem and additional miles on numerous tributaries to the John Day River.

**Lower Columbia River Restoration ($178K) –** In FY 2004 the Service worked with local groups, non-profit organizations, state agencies and others to identify potential habitat restoration activities in the lower Columbia River and its estuary; then provided technical assistance to develop and begin implementation of five projects.

Before

*Trapper Creek mouth, looking towards Odell Lake confluence.*

After

Projects

1. Fort Columbia Tidal Wetland Restoration (Sea Resources) = $25K
2. Lewis & Clark Dike Breach (Columbia River Estuary Study Taskforce) = $25.97K
3. Circle Creek Acquisition (North Coast Land Conservancy) = $20K
4. Big Creek Aquatic Habitat Inventory & Restoration Plan = $24.97K
5. Youngs Bay Conservation Plan = $17.25K

The Fort Columbia Tidal Wetland Restoration project will re-establish 96 acres of historic tidal wetlands. The Service, in cooperation with, Sea Resources, Ducks Unlimited, Washington Department of Transportation, Army Corps of Engineers, and the Columbia River Estuary Study Task Force (CREST) will meet 4 objectives on this project. 1) re-establish a hydro-logical connection between the Columbia Estuary and an unnamed Chinook River tributary, 2) restore historic habitat for fish and wildlife, 3) increase flood storage and sediment retention in the watershed, and 4) re-establish tidal plant communities.

The second project, which includes CREST, Ducks Unlimited and the Young's Bay Watershed Council as partners, is to breach a dike on a 25-acres tidal wetland. This break will: 1) re-establish a hydro-logical connection between the Lewis and Clark River and its floodplain, 2) restore historic habitat for fish and wildlife, 3) increase flood storage and sediment retention in the watershed, and 4) re-establish tidal plant communities.

The third project is a partnership of the North Coast Land Conservancy (NCLC), the Oregon Watershed Enhancement Board, Oregon Hunters Association, U.S. Fish & Wildlife Foundation and Rainland Flycasters. NCLC will acquire 364 acres in the Necanicum River watershed to be managed for fish and wildlife resources. The cooperator and other identified partners will contribute a total of $1,225,000. The property includes 1.6 miles of Circle Creek, a highly productive low-gradient stream that provides high quality rearing habitat for juvenile salmon, and 1.4 miles along the Necanicum River, a salmonid stream that includes populations of coho, Chinook and chum salmon, steelhead and cutthroat trout, and pacific lamprey. The project will provide benefits to the Lower Columbia River region by: 1) conserving spruce swamp habitat - a habitat of regional significance with historic losses of over 90% and 2) maintaining a potential bioreserve for s almonids, especially coho salmon, that could act as an important source area through straying or brood stock re-introduction to develop a founding population for the Youngs Bay watersheds.

CREST will implement the fourth project in cooperation with ODFW and the Nicolai-Wickiup Watershed Council. This work involves a comprehensive salmonid aquatic habitat inventory and a restoration action plan for the Big Creek watershed. This work will support the current planning effort to provide fish passage to about 77 miles of Big Creek.

The final project partners the Wetlands Conservancy will work with the Nature Conservancy, the Oregon Natural Heritage Information Center, Columbia Land Trust and the North Coast Land Conservancy

to undertake conservation and restoration planning in the Youngs Bay watershed. This project will: 1) identify, collect and summarize existing wetlands information, 2) develop new wetland information through field investigations, and 3) identify and prioritize wetland sites for conservation and restoration purposes.

## HATCHERIES ($3,905K):

**Hatchery Reforms ($2,858K) —** The Service operated, administered and/or funded a major share of the artificial propagation facilities in the Columbia River Basin. These included ten National Fish Hatcheries operated by the Service and funded by other Federal agencies, 24 Lower Snake River Compensation Plan (LSRCP) hatcheries and satellite facilities administered by the Service and operated by the States and Tribes and two National Fish Hatcheries operated and funded by the Service. Furthermore, the Service provided expertise in the areas of fish health, genetics, fish culture, and the ecological inter-actions of fish populations and the legislated authority that was necessary to implement the recovery actions identified in the *Strategy*, BiOps, the NWPCC's Artifical Production Review and the *U.S. v. Oregon* settlement.

Reforming salmon hatcheries to achieve both conservation and harvest goals in an integrated manner is difficult and complex. Scientific uncertainties exist regarding the ability of hatcheries and hatchery-origin fish to directly assist with recovery of naturally spawning populations while sustaining major fisheries. Uncertainties also exist regarding genetic and ecological interactions between natural and hatchery-origin fish. Only an objective, collaborative, science-based approach can address these problems in a manner that is both scientifically defensible and acceptable by the public.

The Western Washington Hatchery Improvement Project has provided scientific leadership for addressing both the harvest needs of the fisheries community and the conservation needs of naturally spawning populations. The initial success of this approach has lead to a strategy of applying these methods to the more complex issues and programs of the Columbia Basin. Below are examples of hatchery reform studies currently taking place in the Columbia River Basin.

Abernathy Fish Technology Center, in partnership with the Oregon Department of Fish and Wildlife, Columbia River Fisheries Program Office and the Lower Columbia Fish Health Center, is using DNA markers to genetically monitor steelhead released from the Eagle Creek NFH. Potential replacement of the existing non-native, mitigation broodstock with a native broodstock for the Clackamas River basin will be assessed with the goal of potentially achieving both conservation and fishery management objectives.

Service biologist analyzing genetic samples.

Information gathered from this project will assist fishery and hatchery managers with assessing genetic risks to wild populations and conserving native and threatened species in the Columbia River Basin.

Shitike Creek located on The Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO), supports a depressed population of spring Chinook salmon. The Service and CTWSRO are attempting to rebuild this stock by outplanting surplus hatchery adults from the Warm Springs NFH with the goal that those adults will spawn naturally in Shitike Creek. Surplus adults returning to hatcheries are potential sources of fish for restoring depressed natural populations. The ability of hatchery-origin adults to successfully reproduce in the wild and contribute to natural population recovery is unknown. All hatchery-origin adults outplanted into Shitike Creek are genotyped with a suite of DNA markers, and samples of naturally produced juveniles, representing potential offspring are also genotyped. The pedigree relationships between potential parents and offspring will be determined by DNA analyses, allowing the

natural spawning success of hatchery adults and their ability to contribute to recovery to be estimated.

The Service initiated Phase III of the Hatchery Genetic Management Plans (HGMPs) with NOAA Fisheries and the collaborators with a Cumulative Effects Analysis (CEA) in February 2004 and a final round of workshops in late March 2004. The anticipated products of this extensive effort will be 1) an approved production program in compliance with section 4d, 7, or 10 of the ESA and 2) a prioritized list of production reforms and investments that will hopefully accelerate hatchery reform in the basin.

**Hatchery Monitoring and Evaluation ($1,048K) –**
Interactions of wild and hatchery fish can result in disease transmission. The Warm Springs National Fish Hatchery annually releases 750,000 fish into the Deschutes River system which contains wild Chinook salmon, steelhead and endangered bull trout. To address the issue of disease transmission between hatchery and wild fish in FY2004, wild fish were examined for disease pathogens. Clinical testing shows that wild and hatchery salmon adults carry the same pathogens, an indication of their identical genetic origins, similar ocean destinations and food sources. Additional field sampling and testing of other native species is ongoing.

The Columbia River Fisheries Program Office in partnership with CTWSRO and Warm Springs NFH, marked 100 percent of the Warm Springs Chinook production with an adipose fin clip and coded-wire tag. This marking program at Warm Springs NFH is a pivotal management tool in the management of wild and hatchery fish in the Deschutes River basin and provides information for hatchery evaluation, harvest management, stock assessment, and brood stock management of wild and hatchery fish.

## HYDROPOWER = $119K

**Bull Trout Monitoring and Evaluation ($119K) -**
The Service faces numerous bull trout policy and management decisions. To determine when, where and how to measure progress towards recovery for this species, the Service enhanced support for the bull trout Recovery Monitoring and Evaluation Group (RMEG). The concept of the RMEG is presented in the Draft Bull Trout Recovery Plan. It is composed of Federal, State and university experts and is primarily concerned about approaches that are necessary to develop and coordinate interagency bull trout population status monitoring protocols.

Service biologists monitoring Bull Trout population using pit tag technology.

The RMEG developed a 2004 Annual Plan to address specific monitoring and evaluation questions that the group is charged with answering. The primary questions that have been developed are:
1) What are the target populations of interest;
2) Relative to the recovery criteria of distribution, abundance and trends in abundance, a) what needs to be measured, b) at what life stage, c) how can it be measured, d) what existing data are applicable, e) where has this type of monitoring been done well and, f) what type of data can be used as surrogates;
3) How to determine and measure connectivity within and between population units and;
4) How to develop an integrated sampling frame at reasonable cost?

Since the first meeting, RMEG members have organized into workgroups and developed information relative to the identified questions. The following is an example of a study conducted in the Columbia River Basin in FY 2004 that indicates the type of multiple, ongoing, inter-agency studies that the RMEG is aware of that could provide important parts of a coordinated monitoring and evaluation effort:

The FWS Columbia River Fisheries Program Office implanted Entiat River Basin bull trout with ten 2-yr duration radio tags (bringing the total to 35 tagged fish in the Entiat Basin). Movements and locations within the Entiat and Wenatchee basins are being monitored using fixed stations, aerial surveys, and mobile tracking. This monitoring is expected to identify annual migration and movement patterns This project will provides information on migrational corridors and barriers, rearing, spawning and over-wintering locations. Accordingly, this information will facilitate the identification of where, when and how to most efficiently sample Entiat River bull trout to determine trends in population status and distribution.

## HARVEST = $227K

**Limit Harvest Impacts ($227K) –** In FY 2004, the Service received funding to improve harvest management and the protection of listed wild stocks. Regional conservation and recovery efforts strongly promote the implementation of terminal area and selective mixed stock fisheries as a means to provide additional fishery opportunities while providing protection for listed stocks. The Service plays a major role in addressing Indian and non-Indian harvest of Columbia River stocks. As a participant in the Pacific Fisheries Management Council (PFMC) process, a party to the *U.S. v Oregon* court case, and the agency responsible for the largest artificial production program in the Columbia Basin, the Service has a key role in implementing regional harvest management strategies.

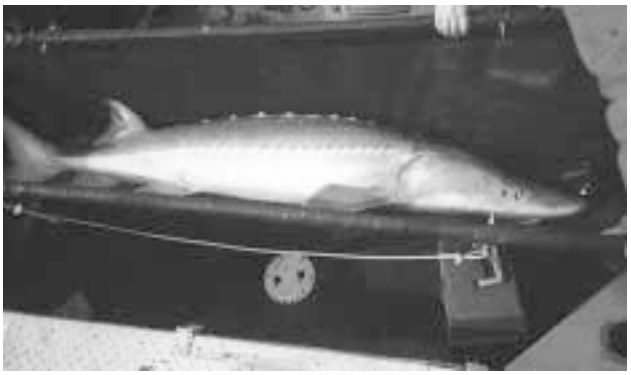
The *U.S. v Oregon* parties have reached agreement on a three year interim plan and will continue their efforts to negotiate a new Columbia River Fish Management Plan. The complexity of issues, positions of the various parties, and the need to resolve related issues in other forums and controlled by other processes are major obstacles to completing a new Columbia River Fish Management Plan. However, the parties have agreed to a structured process to continue these longer term negotiations.

Resolution of differences between the *U.S. v Oregon* parties will require resolving other Columbia Basin activities, including the FCRPS Biological Opinion (remanded to NOAA-Fisheries by the federal court (Judge Redden)), the issuance of the hatchery listing and hatchery guidance policies by NOAA-Fisheries, and marking issues related to the congressional provisions and directives to mass mark all federally funded salmon and steelhead produced for harvest. Completion of a new long term Columbia River Fish Management Plan is not expected before December 31, 2007.

Commercial fishermen.

## Next Steps

The Service achieved significant accomplishments in FY 2004 to help restore and recover aquatic species in the Columbia River Basin. These actions were consistent with the Service's obligations outlined in the *Basin-wide Salmon Recovery Strategy* (*Strategy*). With increases in FY 2002 and 2003, the Service ramped-up its efforts in the Basin to address salmon, steelhead, bull trout and Kootenai River white sturgeon. The Service's Pacific Region has considerable responsibility to assist in the management, protection, and restoration of the Basin's aquatic resources and to ensure the Federal government meets its Trust responsibilities to Native American Tribes. For example in FY 2004, the Service continued to meet its commitments as the lead agency on the recovery of bull trout and Kootenai River white sturgeon.



In June 2003, Judge James A. Redden remanded the 2000 BiOp to NOAA Fisheries to resolve several deficiencies including: reliance on federal mitigation actions that have not undergone section 7 consultations under the ESA; and reliance on range-wide off-site non-federal mitigation actions that are not reasonably certain to occur. On November 30, 2004 the NOAA Fisheries issued a revised Biological Opinion under section 7(a)(2) of the ESA in response to the District Court's order dated June 2, 2003 in the case of National Wildlife Federation v. NMFS. NOAA Fisheries concluded in its revised Opinion (2004 BiOp) that the Updated Proposed Action (UPA) described by the consulting federal agencies – the Army Corps of Engineers, the Bureau of Reclamation and the Bonneville Power Administration (collectively, the "Action Agencies") – is not likely to jeopardize twelve listed species or one proposed species of Columbia Basin salmonids. The Service will coordinate with NOAA Fisheries and continue to provide technical support and scientific expertise to assist in policy decisions.

## Glossary

*Acronyms and Abbreviations*

APR: Artificial Production Review
LSRCP: Lower Snake River Compensation Plan
All H: Term used to describe all four recovery strategies: Hatcheries, Habitat, Hydro, and Harvest
NATURES: NATUral Rearing Enhancement System
BiOps: Biological Opinions
NFH: National Fish Hatchery
BKD: Bacterial Kidney Disease
NMFS: National Marine Fisheries Service
BLM: Bureau of Land Management
NOAA Fisheries: National Oceanic Atmospheric Administration (NOAA) otherwise known as NMFS
BOR: Bureau of Reclamation
NWF: National Wildlife Federation
CFS: Cubic Feet Per Second
NWPPC: Northwest Power Planning Council
COE: Corp of Engineers
ODFW: Oregon Department of Fish and Wildlife
CTWSRO: Confederated Tribes of Warm Springs Reservation of Oregon
PCR: Polymerase Chain Reaction
DNA: Deoxyribonucleic Acid
PIT: Passive Integrated Transponder
EIU: Egg Isolation Unit
RPA: Reasonable and Prudent Alternative
ELISA: Enzyme Linked Immonusorbent Assay
RPM: Reasonable and Prudent Measure
ESA: Endangered Species Act
RPA/M: Reasonable and Prudent Alternatives and Measures
ESU: Evolutionary Significant Unit
Service: Fish and Wildlife Service
FCRPS: Federal Columbia River Power System
Strategy: Final Basinwide Salmon Recovery Strategy also known as the “All H” Paper
FS: Forest Service
SRFB: Salmon Recovery Funding Board
FWS: Fish and Wildlife Service
TMDLS: Total Maximum Daily Loads
HCP: Habitat Conservation Plan
TMT: Technical Management Team
HGMP: Hatchery Genetic Management Plan
TRT: Technical Recovery Team
KNFH: Kooskia NFH
USGS: United States Geological Service
KVRI: Kootenai Valley Resource Initiative
WSNFH: Warm Springs National Fish Hatchery

# Budget Tables

Table 1 - Funding by All H Catagory and Project

| All H Category<br>Project | FY 2001<br>Enacted | FY 2002<br>Enacted | FY 2003<br>Enacted * | FY 2004<br>Enacted * | FY 2005<br>Enacted * |
|---|---|---|---|---|---|
| **Habitat** | **1,477** | **5,806** | **5,768** | **5,734** | **5,762** |
| ESA Consultation | 797 | 1,711 | 1,700 | 1,690 | 1,666 |
| Bull Trout & Other Fish Passage | 170 | 1,200 | 1,192 | 1,185 | 1,277 |
| Subbasin Planning | 60 | 1,060 | 1,053 | 1,047 | 1,032 |
| Instream Flow | - | 955 | 949 | 943 | 930 |
| Avian Predation | 50 | 300 | 298 | 296 | 292 |
| Partners for Fish and Wildlife | 400 | 400 | 397 | 395 | 390 |
| Lwr. Col. R. Restoration | - | 180 | 179 | 178 | 175 |
| **Hatcheries** | **889** | **3,590** | **3,567** | **3,905** | **3,942** |
| Hatchery Reform/Fish Health | 809 | 2,529 | 2,513 | 2,858 | 2,909 |
| Hatchery Monitoring & Evaluation | 80 | 1,061 | 1,054 | 1,048 | 1,033 |
| **Hydropower** | **-** | **120** | **119** | **119** | **117** |
| Monitor & Evaluate Bull Trout | - | 120 | 119 | 119 | 117 |
| **Harvest** | **160** | **230** | **229** | **227** | **224** |
| Limit Harvest Impacts | 160 | 230 | 229 | 227 | 224 |
| **Grand Total** | **2,526** | **9,746** | **9,683** | **9,985** | **10,045** |

** Includes rescissions that were enacted in the FY 2003, 2004, and 2005 Appropriations.*

Table 2 - Funding by Program Element and Project

| Program Element<br>Project | FY 2001<br>Enacted | FY 2002<br>Enacted | FY 2003<br>Enacted * | FY 2004<br>Enacted * | FY 2005<br>Enacted * |
|---|---|---|---|---|---|
| **Consultation (1112)** | **797** | **1,591** | **1,581** | **1,571** | **1,550** |
| ESA Consultation | 797 | 1,591 | 1,581 | 1,571 | 1,550 |
| **Recovery (1113 )** | **-** | **1,250** | **1,242** | **1,235** | **1,217** |
| Instream Flow | - | 375 | 373 | 370 | 365 |
| Subbasin Planning | - | 250 | 248 | 247 | 243 |
| Bull Trout & Other Fish Passage | - | 505 | 502 | 499 | 492 |
| Monitor & Evaluate Bull Trout | - | 120 | 119 | 119 | 117 |
| **Partners for Fish & Wildlife (1121)** | **400** | **400** | **397** | **395** | **390** |
| Habitat Restoration | 400 | 400 | 397 | 395 | 390 |
| **Project Planning (1122)** | **-** | **180** | **179** | **178** | **175** |
| Instream Flow | - | 180 | 179 | 178 | 175 |
| **Coastal Program (1124)** | **-** | **180** | **179** | **178** | **175** |
| Col. R. Estuary Restoration | - | 180 | 179 | 178 | 175 |
| **Environmental Contaminants (1130)** | **-** | **120** | **119** | **119** | **117** |
| ESA Consultation | - | 120 | 119 | 119 | 117 |
| **Migratory Birds (1231)** | **50** | **300** | **298** | **296** | **292** |
| Avian Predation | 50 | 300 | 298 | 296 | 292 |
| **Hatchery Ops & Maintenance (1311)** | **809** | **2,529** | **2,513** | **2,858** | **2,909** |
| Hatchery Reform/Fish Health | 809 | 2,529 | 2,513 | 2,858 | 2,909 |
| **Anadromous Fish Mgt. (1331)** | **470** | **2,201** | **1,709** | **1,699** | **1,675** |
| Limit Harvest Impacts | 160 | 160 | 159 | 158 | 156 |
| Subbasin Planning | 60 | 810 | 805 | 800 | 789 |
| Bull Trout & Other Fish Passage | 170 | 170 | 169 | 168 | 166 |
| Hatchery Monitoring & Evaluation | 80 | 1,061 | 576 | 573 | 565 |
| **Fish & Wildlife Assistance (1332)** | **-** | **995** | **1,467** | **1,458** | **1,545** |
| Instream Flow | - | 400 | 397 | 395 | 390 |
| Bull Trout & Other Fish Passage | - | 525 | 522 | 519 | 618 |
| Limit Harvest Impacts | - | 70 | 70 | 69 | 68 |
| Hatchery Monitoring & Evaluation | - | - | 478 | 475 | 469 |
| **Grand Total** | **2,526** | **9,746** | **9,683** | **9,985** | **10,045** |

** Includes rescissions that were enacted in the FY 2003, 2004, and 2005 Appropriations.*

**Fishery Resources / Region 1**
**U.S. Fish and Wildlife Service**
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**March 2004**